



» PRODUCT BULLETIN

Polystrand™ R Recycled Polyester Composite Tape and Laminates Meet Sustainability Goals and Maintain Performance

Consumers, end-users, and legislators are demanding improved sustainability in an increasing number of products. Brand owners and manufacturers are responding by seeking to incorporate materials including post-consumer recycled plastics into their products and processes. The challenge? To meet evolving sustainability goals while maintaining product performance targets.

Polystrand™ R continuous fiber-reinforced thermoplastic composites are made with a resin matrix of greater than 95% post-consumer recycled PET (rPET). Available in unidirectional tapes and multi-axial laminates, these materials provide mechanical performance that is comparable to conventional composites.

Composites are inherently lightweight alternatives to metal and other materials, enabling sustainability initiatives such as material reduction and fuel economy improvements in many end products. Now, with new recycled-content composites, Avient further supports a circular economy and helps manufacturers lessen their environmental footprint.

KEY CHARACTERISTICS

- Incorporates a minimum of 95% post-consumer recycled PET resin and 58% glass fiber
- Available in unidirectional tape, 2-layer X-ply™ and 3-layer tri-ply laminates
- Excellent bondability to other materials via thermal lamination or adhesives
- Impact and corrosion resistant
- Improved carbon footprint vs. traditional polyester-based composite tape

APPLICATIONS

Recycled content unidirectional tapes and laminates are well-suited for applications that benefit from the light weight, high strength, and impact resistance of continuous glass fiber reinforced rPET including:

- Commercial vehicles
- Trailers
- Structural automotive applications
- Consumer electronics and accessories
- Outdoor sporting equipment and adventure gear

TECHNICAL PROPERTIES

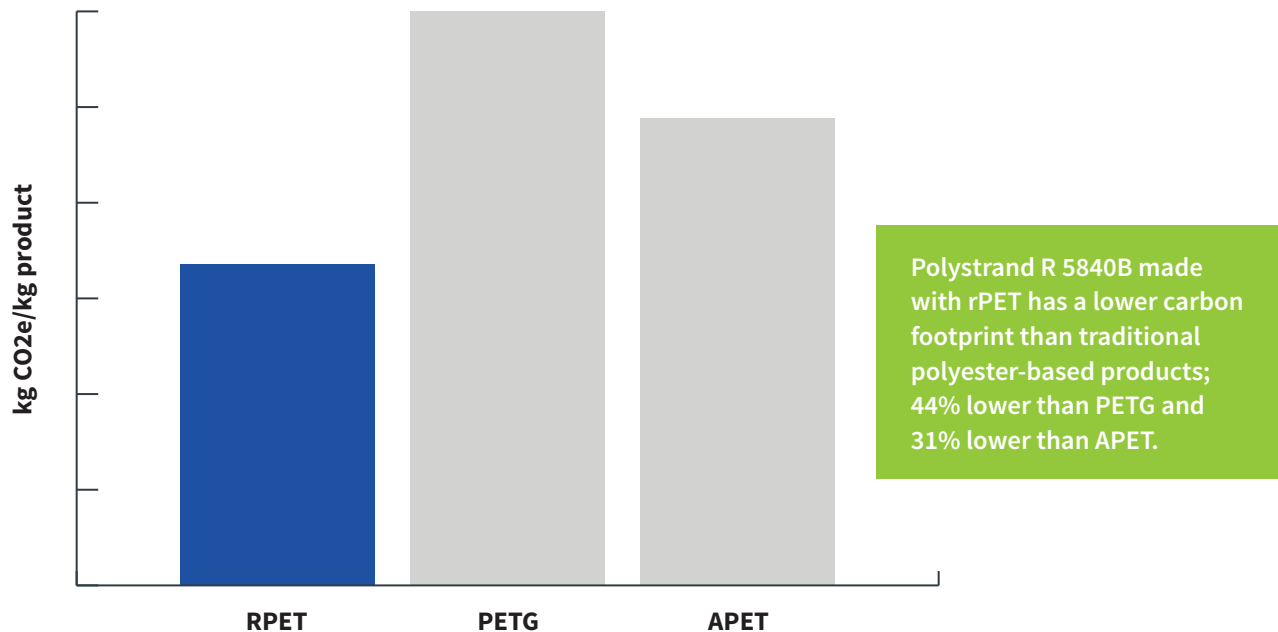
KEY CHARACTERISTICS	GRADE NAME	AREAL WEIGHT lb/ft ²	NOMINAL THICKNESS in	TENSILE MODULUS ksi	FLEXURAL STRENGTH ksi	COMMENTS
> 95% PCR* recycled PET resin, 58% glass fiber	Polystrand™ R 5840B	0.0903	0.09	4400	~80	Equivalent to standard PETG, APET; Black

* Resin source is 100% Post Consumer Recycled (PCR) content, but overall recycled content may vary based on color, additives, etc.

CARBON FOOTPRINT COMPARISON TO ALTERNATIVES

Greenhouse gas (GHG) emissions from cradle-to-gate production

Continuous fiber-reinforced composites comparison: recycled PETG, virgin PETG and APET resin systems with 58% glass fiber reinforcement



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